

*PHILOSOPHICAL BEHAVIORISM: A REVIEW OF
THINGS THAT HAPPEN BECAUSE THEY SHOULD:
A TELEOLOGICAL APPROACH TO ACTION,
BY ROWLAND STOUT*

HOWARD RACHLIN

STATE UNIVERSITY OF NEW YORK AT STONY BROOK

Mentalistic terms such as *belief* and *desire* have been rejected by behavior analysts because they are traditionally held to refer to unobservable events inside the organism. Behavior analysis has consequently been viewed by philosophers to be at best irrelevant to psychology, understood as a science of the mind. In this book, the philosopher Rowland Stout argues cogently that beliefs and desires (like operants such as rats' lever presses) are best understood in terms of an interaction over time between overt behavior and its overt consequences (a viewpoint called teleological behaviorism). This book is important because it identifies the science of the mind with the science of overt behavior and implies that the psychologists best equipped to study mental life are not those who purport to do so but those who focus on the experimental analysis of behavior.

Key words: behaviorism, belief, causation, cognitivism, dispositions, intentional act, operant, teleology

Why should a behaviorist be interested in this difficult book by an Oxford philosopher who wants only to "explain" behavior and cares nothing for prediction and control? There are two reasons why. First, Stout provides cogent reasons for us to go on doing what we are already doing. He argues not only against "mentalist" philosophy, which says that mental terms describe coherent, internal, introspectively available events, but also against "functionalist" philosophy, which says that mental terms describe the output of internal mechanisms, the working of which should be the subject of psychology. Functionalist philosophy has provided the philosophical underpinnings of the "cognitive revolution." Virtually all modern philosophers of psychology hold one of these two views. If they are right, those of us who believe that psychology is the science of mind only by virtue of first being a science of behavior are wrong. Stout, on the other hand, believes that mental terms refer fundamentally to the behavior of intact organisms. He is a *rara avis*

among modern philosophers: a behaviorist. But, you may still argue, why pay any attention to philosophers at all? Why not just go on doing what we are doing anyway? After all, the Association for Behavior Analysis is thriving, and applications of behavioral analysis are flourishing. But this argument ignores the damage that antibehaviorist philosophy, and the cognitive revolution it has inspired, has done to the theoretical and experimental analysis of behavior, especially in universities. The current boom in applied behavioral analysis rests largely on the theoretical and experimental work done in the 1960s and 1970s. If theory and experiment in behavioral analysis (done mainly in university settings) dry up, there may eventually be no new experimental analyses to apply. Consider the situation at Stony Brook. When I came here in 1969, Stony Brook was a center of applied behavioral analysis. All entering graduate students, whatever their area, were required to take a rigorous course in animal learning in their first year. Clinical and developmental psychology here were largely behavioral. Now the graduate course in animal learning is rarely offered and, when it is offered, enrollments are small. Moreover, the faculty in clinical and developmental psychology, as well as in experimental psychology, is largely cognitivist in orientation. Some cognitivists were hired directly; many of the rest converted. When convictions are weakly grounded (or

Stout, R. (1996). *Things that happen because they should: A teleological approach to action*. Oxford: Oxford University Press.

Preparation of this review was supported by grants from the National Institute of Mental Health and the National Institute on Drug Abuse.

Address correspondence to Howard Rachlin, Department of Psychology, State University of New York at Stony Brook, Stony Brook, New York 11794-2500 (E-mail: hrachlin@psych1.psy.sunysb.edu).

grounded in narrow expediency), they will be easily altered by narrow political contingencies. When, on the other hand, convictions are strongly grounded in sound philosophical argument (hence expedient in the long run), they will not be easily changed. A behaviorist philosopher is therefore worth paying attention to.

A second reason for trying to understand this book is that it may be used (with some interpretation required) as a guide for talking about behavioral research when the language of response, reinforcement, and discriminative stimuli becomes awkward or susceptible to misunderstanding.

Stout is concerned primarily with the use of the language of intention and desire. How do we attribute intentions and desires to people? Translating this question into behavior-analytic terms, we might ask: When is a given bit of behavior a true operant? To justify saying that a lever press is an operant, it is certainly not enough that a food-deprived rat is put into a chamber equipped with lever and food dispenser, a lever press is recorded, and food is delivered and eaten by the rat. It is also necessary that the rat (and not an air current or a falling screw) press the lever, and that the rat press the lever *because* it is food deprived, and because eating the food depends on pressing the lever. In other words, the behavior must depend on the reinforcement contingency, not just on the reinforcer. To test this we could perform a series of control experiments in which the chamber is empty, or contains a nondeprived rat, or in which food is delivered independently of lever pressing, or in which eating the food depends on not pressing the lever, or depends on pressing another lever, or in which lever availability depends on first eating freely available food. Although in practice these controls are rarely done, our use of operant language relies on the fact that they have been done many times in the past. When new organisms, responses, reinforcers, or response-reinforcer contingencies are investigated, some set of these control experiments is necessary before we can legitimately speak of operants.

The lever press by the hungry rat would be said by Stout to be “practically justified” by the press-food contingency just as my going to the cash machine is practically justified by the fact that I need money and that I can get

it at the cash machine. Explanation of the lever press in terms of its consequence is teleological explanation and, because this sort of explanation depends only on external behavioral observation, Stout calls it *teleological behaviorism*, a term I have used in a very similar way (Rachlin, 1992, 1994).

According to Stout an act is not an intentional act unless it depends on an “underlying process.” (By underlying process, Stout means something like an operant chain rather than an internal event.) This process may contain nested subchains, which themselves may be intentional acts. A rat’s lever press is thus an intentional act. The terminal link of the chain would be the physical mechanism by which lever pressing produces a food delivery. The initial link would be the movement of the rat (approaching the lever, raising the paw, pressing down, releasing). Note that both links are purely external and both may be further analyzed without physiological speculation or investigation. The downward press, for example, consists of a pattern of force over time that may itself be divided into distinct stages (Slifkin & Brener, 1998). Considered this way, the operant would not occur at an instant (although it may be measured at an instant) but would be a temporally extended behavioral pattern. The rat’s movements would not be *preparations* for pressing the lever but actual *components* (behavioral, not physiological) of the lever press. If, in the course of this sort of downward analysis, you came to the point at which an act could not be further analyzed in strictly behavioral terms (i.e., behavior of a whole organism) then, according to Stout, that act would not be an intentional act (an operant) but a reflex (a respondent). It is important to note, however, that although the possibility of this sort of downward behavioral analysis is required by Stout for an act to be an intentional act, such an analysis is not teleological. Teleological investigation goes the other way—not toward the act’s components but toward its context—toward the larger behavioral and environmental patterns of which the act is a component (and which are said by Stout to “justify” the act). Investigation of the contingencies of reinforcement of an operant would therefore be teleological.

The interesting cases of intentionality in human behavior occur when many behavioral

processes are nested one within the other. Swinging a hammer, for example, may be justified in terms of nailing two boards together which in turn may be justified in terms of building a floor which may in turn be justified in terms of building a house which may in turn be justified in terms of providing shelter for a family, and so forth (Rachlin, 1995). Each level consists of a feedback process, the input of which is its "goal." The goal itself is not explained in terms of the underlying process (that would be circular) but in terms of the next higher process (the "overlying process," you might say). The reason why I hammer two boards together may be to build a floor, but that does not by itself explain why I should want to build a floor. That question is answered by the fact that I must build a floor in order to build a house. The direction of explanatory progression is ever *outward*, incorporating more context as one goes along.

For example, a belief, according to Stout, is not an internal event but a pattern of behavior consisting of verbal utterances and actions made at different times. The belief is said to justify its component acts. A person who believes in God speaks and acts in a certain way over an extended period of time. If the person does not speak and act in this way, then he or she does not believe in God regardless of what might be going on within the person (see Rachlin, 1994, for more on belief and other mental terms as strictly behavioral concepts). A belief is an intentional act, according to Stout, because it has underlying components and is subject to teleological investigation—investigation of the patterns into which it fits—investigation of what justifies it—investigation of the contingencies of its reinforcement.

Terms such as *underlying process*, *goal*, *belief*, *justification*, and so forth are used by Stout to refer to overt behavior of intact organisms. It would have been possible to substitute more behaviorally sounding terms for them. But one of Stout's main objects is to rescue such terms from the mentalists, cognitivists and physiologists (as earlier behaviorists rescued such terms as *stimulus*, *response*, *reward*, and *punishment*) and return to them their behavioral meaning, which is after all their true meaning. Henceforth, in this review, when such terms are used to refer to an internal

process (i.e., in a nonbehavioral sense) they will be italicized.

Stout's teleological method is exactly opposite to that advocated by most modern philosophers interested in explaining behavior. For them, the direction of explanation is *inward*. According to them, internal mental states cause intentional actions. I go to the money machine because my *desire* to have money interacts with my *belief* that I can get it at the machine. Stout says, "It is often supposed that there is something inadequate about externalist [i.e., behavioristic] explanations of action, and that the real, complete, teleological explanations of action must cite internalist reasons after all. This is an example of a philosophical move which I will call the Internalist Shift" (p. 13). Stout argues convincingly against this way of thinking. He shows that it is based upon a misguided desire to discover an immediate efficient cause of intentional actions. An example of the Internalist Shift is what he calls the Argument From False *Beliefs*. If my behavior is reinforced on a fixed-ratio schedule and I *believe* I am on an extinction schedule I will behave as if I were on an extinction schedule. Therefore, says the Argument From False *Beliefs*, it is my *belief* that explains my behavior, not the external facts. The teleological behaviorist would respond that there are other facts (perhaps something about the present situation that resembles past extinction situations) that may explain both the behavior and the *belief*. The internalist sees these resemblances and correspondences as irrelevant because the belief is more immediate than the facts. But, as Stout says, "internalist and externalist explanations belong to quite different categories of explanation and so cannot be placed on a single scale, one more immediate than another" (p. 28). The externalist explanation is not immediate or nonimmediate. Rather, it is an overriding or contextual explanation.

If a yellow light has consistently signaled extinction in the past and suddenly signals a fixed-ratio schedule, we would speak of my behavior adjusting to the contingencies or failing to do so. My *belief*, one way or the other, would have to be explained in terms of my behavior, not my behavior by the *belief*. Of course, every Skinnerian knows these arguments (see Skinner, 1974). But Stout shows, in addition, that the Argument From False

Beliefs leads inevitably to extreme skepticism, where the only known facts are internal states and where what seems to be true is true. Stout rejects this sort of skepticism as the basis for an explanation of behavior. Still less can it be the basis for prediction and control.

Behaviorists have not been immune to the Internalist Shift. Watson's identification of unobserved muscle twitches with *thoughts*, Hull's internal r_g - s_g connections, and Tolman's *cognitive* maps are equally misguided searches for immediate causes. Even Skinner was not immune. Zuriff (1979) finds 10 inner causes in Skinner's behavioral explanations. We have had internal, self-administered reinforcement, internal discriminative stimuli, internal responses. All are departures from behaviorism. They arise when behaviorism runs into trouble—when behavior (such as avoidance) is not easily or simply explained in terms of external causes. The search for internal causes is a search, not necessarily in the wrong direction but, according to Stout, in a nonbehavioral direction. Is there a way, consistent with behaviorism, to account for behavior with no easily identified environmental causes?

If you are stopped at a corner, the light turns green, you take your foot off the brake, you press the accelerator pedal, and the car doesn't move, it makes sense to open up the hood and look for some mechanical dysfunction. But if you are a passenger in the car and under the same conditions the driver keeps his foot on the brake you would not look inside his head (either to his nervous system or cognitive system). Assuming that the driver was not suffering from sudden paralysis, you would ask (in terms of Stout's title) why he should have kept his foot on the brake (perhaps there was a pedestrian about to cross). That is, you would do as behavior therapists are (or should be) trained to do: You would look in the environment for the determinants of his behavior. Or, to put it another, better, way, you would look for the overlying process, however widely extended in time, into which this bit of behavior fits (the driver's concern for pedestrians—itsself an extended pattern—dominating his desire to get where he is going). What Stout is saying is that those of us who take this path are the true psychologists; it is we, not the cognitivists or physiologists, who are most directly studying mental life.

For these reasons this is an important book for psychologists. But there is no denying that, for psychologists, it is slow going. A lot of time is spent answering arguments of other philosophers, arguments that behaviorists will find unconvincing in the first place. There are also some areas of mental language, if not mental life, that are not touched upon in this book. Stout provides behavioral explanations of intentions and beliefs but he does not discuss sensations and perceptions. Perhaps this is because sensation and perception cause problems for the dispositional language that Stout has inherited from Ryle (1949).

A disposition is a tendency to behave in a certain way, given the appropriate circumstances. Stout's explanation of belief relies on dispositions. A person may have a belief, according to Stout, and still not act on it. It is what would have happened if the conditions were such as to cause the belief to be acted upon. (Similarly, saying that a cup is brittle means that it would break if it were dropped.) The unexpressed belief is said to be "dormant." In the case of complex behavioral patterns like beliefs, all the external conditions for a particular act may be present yet the act itself might only occasionally occur. For example, I believe that if I press a certain button on my remote control, the TV will go on. I also would like very much to watch a program, on now, that I usually watch. Both the remote and the TV are here in the room with me but yet I do not press the button, because I am working on this review. On another evening I might well put off the review and watch the program. Is my belief in the efficacy of my remote button then dormant at the present moment? It seems to me that my belief in the efficacy of my remote is no more or less dormant when I am writing than when I am actually pressing the button. The belief lies not in any particular button press but in a whole complex of individual acts including numbers of button presses.

Dispositional concepts like dormancy are unnecessary to explain human behavior. It seems better to say that the belief is a pattern of behavior spread out over time and that it is active even during periods when pieces of it are not occurring. On a smaller scale, we would say that a rat is pressing a lever at a certain rate even at moments when it is not pressing the lever. The measured rate is no

less manifest (or more dormant) when the rat is pausing than when the rat is pressing. Both pressing and pausing are required in a certain pattern for the rate to be what it is. The price for this way of speaking is that we can never be certain that the rate is what we have measured it to be in the past. The time-limited observation of a given rate may be just a more or less lengthy burst within a longer pattern of higher or lower rate.

The paradigm case of the use of such language is in talking about probabilities. We can never be absolutely certain that a coin is unbiased. Even a thousand tosses with 50% heads cannot give us certainty. There is always some chance that in the next 10 million tosses, say, the coin will reveal a bias. Similarly, future events may prove us to have been wrong about the rat's rate of lever pressing, another person's belief, or even our own belief. It would not be nonsensical to say, "I thought I believed my spouse was faithful but I guess I never really did. (Otherwise I wouldn't have hired that private detective.)" A behaviorist should prefer explanations of intentions and beliefs in terms of actual overt behavior rather than potential behavior. What would have to be given up with explanation of beliefs in terms of actual behavior spread out over time is the concept of a dispositional state bridging individual acts. But this seems no more of a loss than giving up the Internalist Shift.

It is thus possible for another teleological behaviorist, one approaching this viewpoint from psychological behaviorism, to disagree with some of Stout's explanations of mental events. But it seems to me impossible to deny the force of his arguments against all sorts of manifestations of the Internalist Shift. Behaviorists, following Skinner, have often responded to philosophers' ignorance of psychology by a corresponding willful ignorance of philosophy. Here is a chance to change that pattern and in the bargain to find a guide to (a discriminative stimulus for) our own behavior.

REFERENCES

- Rachlin, H. (1992). Teleological behaviorism. *American Psychologist*, 47, 1371-1382.
- Rachlin, H. (1994). *Behavior and mind: The roots of modern psychology*. New York: Oxford University Press.
- Rachlin, H. (1995). Self-control: Beyond commitment. *Behavioral and Brain Sciences*, 18, 109-159.
- Ryle, G. (1949). *The concept of mind*. London: Hutchinson House.
- Skinner, B. F. (1974). *About behaviorism*. New York: Knopf.
- Slifkin, A. B., & Brener, J. (1998). Control of operant response force. *Journal of Experimental Psychology: Animal Behavior Processes*, 24, 431-438.
- Stout, R. (1996). *Things that happen because they should: A teleological approach to action*. Oxford: Oxford University Press.
- Zuriff, G. E. (1979). Ten inner causes. *Behaviorism*, 7, 1-8.

Received October 26, 1998
Final acceptance April 7, 1999